Initiatives and Progress in Our 2025 Business Plan

Mid-Term Business Plan (2025 Business Plan)

To deal with the significant changes in the business environment and achieve sustainable growth into the future, Toyoda Gosei's 2025 Business Plan for the medium term lays out three key areas that take advantage of the Toyoda Gosei Group's cultivated strengths. We are making efforts tied to materiality that will provide both social and economic value.

What We Aspire to Be

Toyoda Gosei aims to grow as a global company that acts flexibly and swiftly in today's dramatically changing business environment, delivering the highest levels of satisfaction to customers worldwide through safety, comfort, well-being and the environment

Financial Objectives

	FY2017 (J-GAAP)	FY2025 (IFRS)
Revenue	¥806.9 billion	More than ¥1 trillion
Operating profit ratio	5.1%	8%
ROE (Return on equity)	6.6%	10%

Pillar Ⅰ

Venture into innovation, new mobility

New Technology, New Products

- Commercialization in new fields utilizing core technologies
- Development of new technologies and products coping with CASE
- Strategies of modularization and system products

Pillar Ⅱ

Strategy for growing markets/fields

Current Products

- Selection and concentration of business resources
- Make current products more highly value-added
- Business plan execution through cooperation with customers and business partners

Pillar Ⅲ

Innovative manufacturing at production sites

Current Products

- Globally standardized production know-how and processes
- Further implementation of the Toyota Production System (TPS)
- "*Jidoka*" and manpower saving utilizing IT
- Reduction of environmental burden by production engineering reform

Base of the Pillars

Enhancement of our business foundation

- Strengthening global operations
- HR development
- Business activities with integrity

Financial Policy

Shareholder returns	Regarding shareholder returns for the time being, we will work wholly to reward shareholders based on a consolidated payout ratio of 30% or greater, from a variety of perspectives.
Capital investment	We will secure 50 billion yen by FY2025 as funding for capital investment for growth.
Cash reserves	In view of the prevailing circumstances, we will secure cash reserves* of consolidated monthly turnover plus 30 billion yen including funds to cover risk. *Short-term borrowings (less than one year) are excluded.

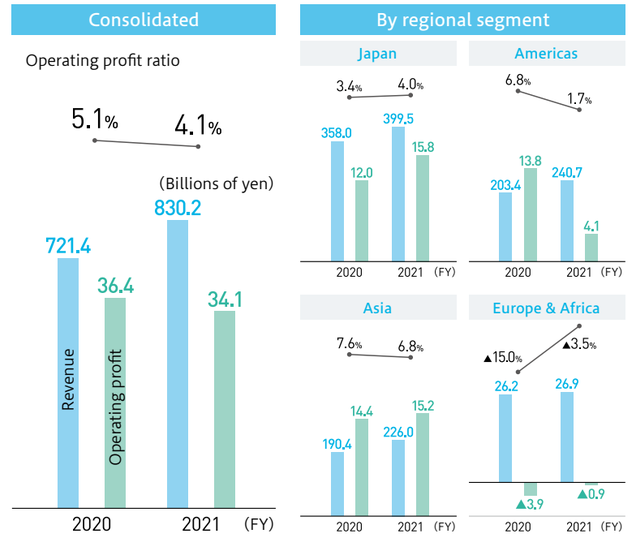
Assessment of Our Current Status

Although sales revenue increased in FY2021, mainly due to the recovery of production from the cutbacks caused by COVID-19 the previous fiscal year, operating profit fell and the operating profit ratio dropped 1 percentage point to 4.1%. This was due to significant changes in the external environment, including deteriorating raw material market conditions, mainly in the Americas, poor tracking of the rapid production volume changes due to the semiconductor supply shortage, and rising logistics costs.

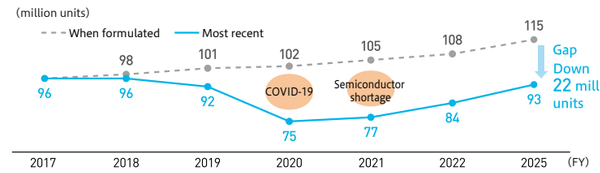
Looking at our progress toward the management targets of the 2025 Business Plan under such circumstances, we find that although the global automobile production forecast (see figure on right) is lower than when the plan was formulated, non-Toyota sales, mainly of SS products, and sales of IE products are growing steadily and we are on track to achieve the revenue target of 1 trillion yen.

At the same time, as mentioned above, our operating profit ratio fell by 1 percentage point in FY2021 from the previous year, due mainly to the sluggish performance in the Americas. Despite these harsh conditions, we are aiming for a rate of 5% in FY2022 through profit improvement measures. After that we will continue to increase added value and reduce costs, the entire company making concerted efforts to achieve our target operating profit ratio of 8%.

FY2021 Results



Outlook for Global Vehicle Production



Future Initiatives to Achieve Management Goals

We are working from both short-term and medium- to long-term perspectives to achieve an operating profit ratio of 8%. Our short-term initiatives are to reinforce our business, mainly in the Americas, focusing on three key initiatives.

The first is to reduce the impact of material market conditions. We are working to minimize the impact of material market conditions by reducing material losses through yield improvement and other measures, and reducing the amounts of materials used, while also negotiating with automakers to pass on some of the prices. The second is a flexible response to sudden production fluctuations. In the previous fiscal year, we were unable to respond flexibly to sudden fluctuations in production volume, resulting in increased direct labor costs. To counter this, we are receiving more detailed information on production plans from automakers than ever before, while also optimizing the allocation of personnel in the production process. We are making improvements to our production system so that we can receive the benefits of increased sales when production stabilizes in the future.

The third is to push further cost improvements. We have always tried to make cost improvements, but now we are putting greater emphasis on rationalization than in previous years by improving processes, strengthening loss reduction, and reducing labor needs through "*jidoka*". This is also being done with a view toward future recruitment difficulties.

Medium- to long-term initiatives will be made to increase added value by introducing high-value-added products and high-performance airbags in the growing SS business (▶P.24), and new high-value-added products for the BEVs that will come into wider use (▶P.26). We also aim to develop new businesses, taking new technologies and the demand for carbon neutrality as opportunities.

In addition, we will strive to reduce costs through our manufacturing innovation strategy (▶P.39) and a switch to low-cost materials with low CO_2 emissions, as well as a review of our business portfolio mix to achieve the targets in our 2025 Business Plan.

Initiatives and Progress in Our 2025 Business Plan

SS Business Area

With our abilities in product development using world-class CAE analysis technology,*1 we will provide high-quality, low-cost airbags to all regions to help solve social issues and achieve business growth.

*1 Computer-aided analysis technology in the machine design process.

Issues
- Product development to correspond to more types of accidents
- Development of network to handle growing global market
- Product development to keep up with the changes in automobiles

Strengths
- Product development using world-class CAE analysis technology
- Development and production locations that cover expanding regions
- Ability to propose systems with peripheral components added to airbags

Key Initiatives in FY2021

In new product development, we began mass production of airbags that protect pedestrians, who account for the majority of traffic fatalities. The airbags cover rigid sections of the vehicle, such as the front pillars and the lower part of the windshield, that can easily lead to fatal injuries. By optimally adjusting the internal pressure for each area, the airbags reduce impacts to the head. The world-class CAE analysis technology used in the development of this airbag has also shown its advantages in the development of BEV airbag systems to achieve target performance. This will be reflected in future mass-produced BEVs. In another area, we established a new plant in Mexico to increase our airbag production capacity. This will build up our production network so that we can meet growing demand.

Pedestrian protection airbags

Future Initiatives

We aim to develop high-performance products and speed up development through collaboration with seatbelt and inflator manufacturers to meet the changes in the business environment, such as the spread of BEVs and autonomous driving.

In addition, we will increase our airbag production capacity in the key markets of China, India, and Southeast Asia, where further growth in demand is expected. Preparations are underway for the establishment of a new plant in South China with a targeted start of production in the summer of 2023. The “TG Advanced Plant Concept” will be key to operations at the new plant. This concept will then be sequentially introduced at other global locations.

IE Business Area

We will expand our business by developing products and production engineering that meet performance requirements that are changing with CASE, and by developing environmentally friendly materials and manufacturing methods and adopting them at our production facilities.

Issues
- Development of products and production engineering that captures trends in design and functional needs
- Lower costs, higher productivity with “*jidoka*” and production engineering improvements
- Supplying optional parts that correspond to diversifying user needs

Strengths
- Development, product design, and production engineering abilities to achieve various decorations, such as painting, plating, LED illumination, and surfaces, and mechanical products with high quality
- Plants that have the latest production engineering for our main manufacturing methods of painting, plating, molding and more.

Key Initiatives in FY2021

Taking advantage of our product design and production engineering capabilities that give rise to a wide range of high quality decorative techniques and products, we developed a new lacquer black plating that combines a lustrous feel and deep black coloring, and an LED illuminated emblem that contributes to the forward-looking design suited to BEVs, the first to be adopted in Japan. In addition, to strengthen our production network, we enlarged plants and introduced new equipment to respond to increased sales of radiator grilles and other products at US locations, which is a key overseas market for us. In Japan, we started production at a new plant in Miyagi Prefecture. It is a state-of-the-art plant that combines efficient manufacturing using the latest painting equipment and collaborative robots with environmentally friendly practices such as the use of renewable energy.

Illuminated emblems

New Miyagi Ohira Plant

New lacquer black plating

Future Initiatives

We will propose products compatible with the sensing technology necessary for CASE, interior products incorporating human machine interfaces (HMI) and other technologies, and new instrument panels combined with airbags.

The new trend for automobile subscriptions will stimulate the optional parts market. Toyoda Gosei aims to increase value by accepting orders for mass-produced products and optional parts in sets through integrated planning, and meeting the needs for embellished interiors and exteriors with the use of advanced decorative technologies.

We will also grow our business in line with environmental considerations by utilizing environmentally friendly and recycled materials and developing clean plants, facilities, and manufacturing methods.

Initiatives and Progress in Our 2025 Business Plan

FC Business Area

We aim to achieve further growth by expanding global sales of fuel system products that reduce vehicle weight and meet emission regulations, building a development and production network for products to be used on the electric vehicles of the future, and new environmentally friendly businesses.

Issues
- Development of BEV low CO_2 emissions products (nature-derived materials, material recycling applications, lighter weight, more)
- Remaining fuel system product development and product development for BEVs while ensuring production resources

Strengths
- Environmentally friendly product development that leverages our knowledge in the fields of rubber and plastics
- Technology and manufacturing to produce important safety products with high quality
- Global supply network

Key Initiatives in FY2021

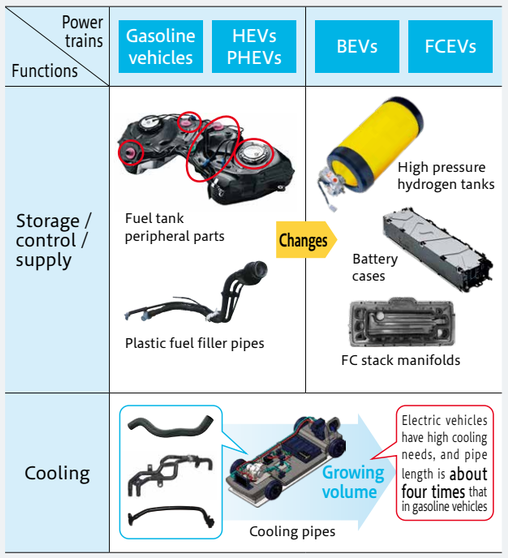
We are promoting an all-round strategy to grow global sales of plastic fuel filler pipes and fuel tank peripheral components for gasoline and HEV/PHEV vehicles, and investing resources in advanced development and facilities investment for BEVs and FCEVs.

Carbon neutrality initiatives include design and manufacturing method development utilizing knowledge from our strengths in the field of rubber and plastics to achieve weight reduction through thinner walls and to replace metal with plastic materials.

Future Initiatives

We will pursue business expansion in all directions, including the development of low-cost fuel system products for sealed tank systems for HEVs/PHEVs, cooling pipe and battery pack products for BEVs, and full-scale mass production of tanks for FCEV passenger and commercial vehicles.

With a view to achieving carbon neutrality, we will seek the effective use of rubber resources through our original desulfurization and regeneration technology and the use of naturally derived and recycled materials utilizing our knowledge of polymer materials.



WS Business Area

We aim to contribute solutions to social issues and ensure reliable profits through product development and manufacturing activities centered on quietness technology and a carbon-neutral, circular economy.

Issues
- Establishment of sustainable seal product business while using rubber materials with high CO_2 emissions and that are difficult to recycle
- Meeting the needs for greater quietness with electrification while also lowering product cost

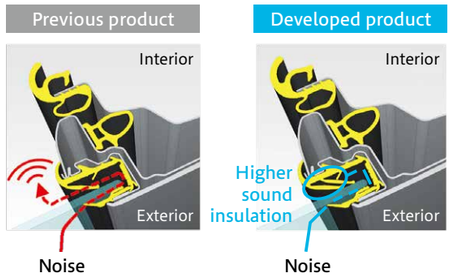
Strengths
- Rubber desulfurization and regeneration technology
- Product development abilities and evaluation technology abilities that contribute to improved quietness, leveraging our knowledge in the fields of rubber and plastics

Key Initiatives in FY2021

To improve profitability, we are seeking to reduce costs through production lines that are automated and do not require high skill levels.

We are also reducing waste and CO_2 emissions by reusing rubber waste in the plant with our rubber desulfurization and regeneration technology. To raise the added value of our products, we have been working continuously with the testing division to develop technology for quietness. We identify vehicle weaknesses that contribute to lack of quietness, and develop and propose quietness-enhancing products by improving these weaknesses. In FY2022, we are starting mass production of door glass runs that will be used on the Lexus.

Door glass runs (dotted line)



Future Initiatives

To contribute to a carbon-neutral, circular economy, we aim to improve the quality of recycled rubber and increase recycled rubber production. At the same time, we will look into switching to plastic for some products for even lower CO_2 emissions, depending on the product characteristics, and work to increase the recycling rate.

We also aim to improve the profitability of this business overall by developing technologies to expand the range of uses for recycled rubber and plastic materials and developing seal structures that will enable us to maintain high quietness performance and cost competitiveness.

Life Solution Business

In the non-automotive area, we are expanding our UV-C and other LED business and working toward commercialization in power semiconductor devices and other new fields.

Issues
- Expansion and increased sales of industrial machinery parts and the LED business
- Accelerated establishment of technology for earlier commercialization in new fields

Strengths
- Knowledge in LED field, materials
- Industry-academia-government collaboration

UV-C LED Business

Key Activities in FY2021 and Future Initiatives

We launched several new UV-C LED products in FY2020 in response to COVID-19 pandemic, and are now developing and marketing various products in the three areas of air sterilization, water purification, and surface sterilization. In the air sterilization field, we started with a UV-C space disinfector, which traps bacteria and viruses in a filter and eliminates them by irradiation with UV-C LEDs, and then introduced a compact UV-C personal air disinfector and deodorizer, which also has a deodorizing function. We are currently developing new products to further expand our product lineup. In the field of water purification, we sell a UV-C water purification unit, and in the field of surface disinfection, we sell a UV-C disinfection box and a UV-C high-speed surface disinfection unit. We are developing new products in these areas as well.

To make it easier for the general public to purchase our products, we have started an online store where some of our products can be purchased directly over the internet. We will continue to develop UV-C LEDs with higher output and longer life and expand the use of UV-C LEDs to facilities where mercury lamps are used, such as water purification plants, in order to provide safe and secure spaces.

Power Device Business

Key Activities in FY2021 and Future Initiatives

Power semiconductor devices are used for power control in industrial equipment, automobiles, home appliances, and other applications. We are developing substrates and elements for these devices using GaN materials. Currently, power devices use mainly Si and SiC materials, but with these materials there is a problem of large switching loss.* Higher frequency and higher power can be expected with the use of GaN materials. We are conducting development in collaboration with industry, academia, and government, using the knowledge we have cultivated over many years in the field of blue LEDs. In a project sponsored by the Ministry of the Environment, we succeeded in producing high-quality GaN seed crystals of more than 6 inches in size, among the largest in the world, utilizing a method of growing GaN crystals in liquid metal mixed with sodium and gallium (sodium flux method).

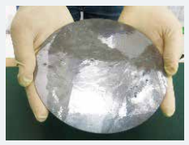
With a view to future commercialization, we are accelerating the development of elements with improved characteristics, supplying samples, further improving the quality of seed crystals, and increasing the diameter of substrates. We also aim to enter the market for data centers by 2025. Beyond that, we are looking to apply the technology to automotive applications.

*Energy losses to heat, etc. generated during DC ⇔ AC conversion

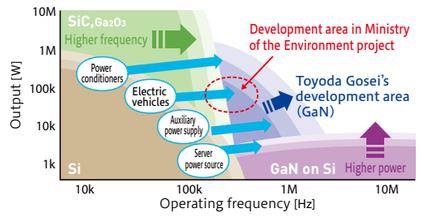
World's largest class

Made substrate of more than 6 inches in diameter
(Manufacturing method: Sodium flux)

The size and quality of the grown substrate depends on the seed crystal, and so larger diameter and higher quality seed crystals are important in performance and cost as a power semiconductor.



Best Performance Range of Each Device



Manufacturing Innovation Strategy

The new Miyagi Ohira Plant was established under the TG Advanced Plant Concept banner. Evolution is also continuing at the expanded Seto Plant and a new plant in South China to double productivity and halve CO_2 emissions.

Aims of the Manufacturing Innovation Strategy

The TG Advanced Factory Concept has been established to respond to various changes in the environment, such as diversifying customer needs, the growing labor shortage, and stricter laws and regulations to cope with global warming, and to ensure the competitiveness of the entire company for continued growth. It incorporates three concepts centered on the high productivity smart factories that have been developed based on the Toyota Production System. We have been steadily putting this concept into practice as we move toward doubling our productivity and halving our CO_2 emissions.

The first concept is that of a "virtuous factory." In-process location information and manufacturing conditions are linked by data down to the individual product; even human intuition and know-how are converted to digital data. With the use of AI, we can deliver safety and security to our customers by not creating or passing on defects. The second concept is the "clean factory." We will minimize energy consumption through process innovation focused on integration and downsizing, with an emphasis on the heating process for our mainstay plastics and rubber. The third concept is that of "a factory where everyone can work with vigor." Tedious or heavy tasks are automated through the use of automated conveyance, automated visual inspections, and collaborative robots so that workers can concentrate on tasks that can only be performed by humans, such as maintenance improvements. This will increase the satisfaction and motivation of skilled workers.

TG Advanced Factory Concept

Key Initiatives in FY2021

The new Miyagi Ohira Plant, which began production operations in July 2022, is the first plant launched under the TG Advanced Plant Concept. It embodies the TG Advanced Factory Concept in the three key areas of (1) "*jidoka*" and labor savings, (2) carbon neutrality, and (3) factory DX, and will help to achieve sequential production and reduced per-product CO_2 emissions by taking advantage of its location close to the customer.


New Miyagi Ohira Plant

(1) "*Jidoka*" and Manpower Saving
Smart | Vigor

Collaborative robots perform everything from parts assembly to transfer to carts. Sequential production is achieved in combination with versatile fixtures. Automated guided vehicles (AGVs) handle all in-plant transport, and are linked with IoT to enable optimal transport. Productivity improvement of 30% is achieved [Smart], while humans are freed from assembly and transportation work [Vigor].


Transport using AGVs


Part assembly process with collaborative robots

(2) Carbon Neutrality
Smart | Clean

In addition to the use of solar power in the plant, all molding and setup machines on molding lines have been converted to electric power. In the painting process, the painting booth has been made more compact by improving the painting robot's range of motion, resulting in a 20% increase in productivity [Smart] and a 30% reduction in CO_2 emissions [Clean].


All-electric molding line


Painting robot

(3) Factory DX
Smart | Virtuous

Each product, from material introduction to shipment, can be traced with the use of QR printing. The data are then displayed on AR glasses to deter human errors such as picking up the wrong parts. Different conditions are also converted into data and used for improvement. Productivity is increased by 30% [Smart] and the passing on of defects is eliminated [Virtuous] by not creating points of variation between humans.


Using wireless AR glasses


Automatic QR printing with a laser marker

Future Initiatives

The new Miyagi Ohira plant was the starting point for TG advanced factories, and these activities have continued to evolve with the expanded Seto Plant and a new South China plant. They will also be spread to existing plants as part of our restructuring initiatives in Japan and overseas.

In the future, we will implement manufacturing innovations with the ideal of realizing the "TG One Factory Concept," in which each plant of the global Toyoda Gosei Group is operated as part of one large plant.


Seto Plant *Expanded (Production scheduled to start in December of 2023)


New Plant in Central China (Production scheduled to start around the summer of 2023)